

CLAIMS

1. A fluid dispenser device including a fluid dispenser member (10) such as a pump or a valve, and a dispenser head (20) provided with a dispensing orifice, said fluid dispenser device being provided with dispensing detector means (30, 31) for detecting dispensing of a dose of fluid, said detector means (30, 31) being adapted to deliver a signal for informing the user that a dose of fluid has indeed been dispensed by said pump, said detector means comprising a detector (30) for detecting the fluid going from said dispenser member to said dispenser orifice, said fluid dispenser device being characterized in that said detector (30) comprises a piezoelectric material.
2. A device according to claim 1, in which the dispenser member (10) is connected to the dispensing orifice (40) via an expulsion channel (50), said detector means (30, 31) being provided in said expulsion channel (50).
3. A device according to claim 1 or claim 2, in which said detector (30) is a dynamic pressure detector.
4. A device according to any preceding claim, in which said detector (30) comprises polyvinylidene fluoride (PVDF).
5. A device according to any preceding claim, in which said detector (30) comprises a PVDF tube operating in breathing mode.
6. A device according to claims 2 and 5, in which said PVDF tube is disposed around a portion of said expulsion channel (50).
7. A fluid dispenser device including a fluid dispenser member (10) such as a pump or a valve, and a dispenser

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head (20) provided with a dispensing orifice, said fluid dispenser device being provided with dispensing detector means (30, 31) for detecting dispensing of a dose of fluid, said detector means (30, 31) being adapted to deliver a signal for informing the user that a dose of fluid has indeed been dispensed by said pump, said detector means comprising a detector (30) for detecting the fluid going from said dispenser member to said dispenser orifice, said fluid dispenser device being characterized in that said detector (30) comprises an optical fiber (30).

8. A device according to claim 7, in which the dispenser member (10) is connected to the dispensing orifice (40) via an expulsion channel (50), said detector means (30, 31) being provided in said expulsion channel (50).

9. A device according to claim 7 or claim 8, in which said optical fiber (30) is associated with a deformable membrane (31) which deforms when fluid passes through it, such deformation generating stress in the optical fiber (30).

10. A device according to claim 9, in which said deformable membrane (31) is disposed around a portion of said expulsion channel (50).

11. A device according to claim 9 or claim 10, in which said optical fiber (30) co-operates with said deformable membrane (31) in a casing (45) secured to the dispenser head (20).

12. A device according to any one of claims 7 to 11, in which said optical fiber (30) is made of plastic or of glass.

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13. A device according to any preceding claim, in which said detector means (30, 31) are disposed in a sleeve (40) co-operating at one end with said dispenser member (10) and at the other end with said dispenser head (20).
- 5 14. A device according to claim 13, in which said sleeve (40) is made up of two portions (41, 42) engaged one on and/or around the other, said detector means (30, 31) being disposed between said two sleeve portions (41, 10 42).
- 15 15. A device according to claim 13 or claim 14, in which said sleeve (40) is engaged around the valve member of the valve, or around the actuating rod of the pump.
- 16 16. A device according to any preceding claim, in which said detector means (30, 31) are connected to electronic means (60) for processing the signals delivered by said detector means (30, 31).
- 20 17. A device according to any preceding claim, in which said detector means (30, 31) are adapted to increment or to decrement a dose counter.
- 25 18. A device according to any preceding claim, in which said dispenser member is a pump (10) adapted to dispensing the fluid such that it is so finely sprayed that the spray is undetectable by the user, said detector means (30) informing the user every time a dose of fluid 30 is dispensed.
19. A device according to any one of claims 1 to 17, in which said dispenser member is a metering valve (10) operating with a propellant gas.

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This translation of an amended page covers the amendments made in the original. However, the page breaks match the translation, so that this page is also a replacement page that fits in with the remainder of the translation.